

FACT SHEET FOR STATE WASTE DISCHARGE PERMIT NO. ST 6122

**NATIONAL FROZEN FOODS PRODUCTION FACILITY
CHEHALIS, WASHINGTON**

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INTRODUCTION

This fact sheet is a companion document to the draft State Waste Discharge Permit No. ST 6122. The Department of Ecology (the Department) is proposing to issue this permit, which will allow discharge of wastewater to waters of the State of Washington. This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions.

Washington State law (Revised Code of Washington [RCW] 90.48.080 and 90.48.162) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. Regulations adopted by the state include procedures for issuing permits (Chapter 173-216 Washington Administrative Code [WAC]), and water quality criteria for ground waters (Chapter 173-200 WAC). They also establish requirements which are to be included in the permit.

This fact sheet and draft permit are available for review by interested persons as described in Appendix A--Public Involvement Information.

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Changes to the permit will be addressed in Appendix D--Response to Comments.

GENERAL INFORMATION	
Applicant	National Frozen Foods Corporation
Facility Name and Address	Processing Facility 436 NW State Street Chehalis, WA 98532
Type of Facility	Vegetable Processor
Type of Treatment	Screening and Land Application
Discharge Location	Waterbody Name: Chehalis River, near fields listed below.
Legal Description of Application Area	<u>Field Number, Section, Township, Range</u> Field No. 1, SE, NW, Sec.18, T.14 N, R.2W Field No. 2, NW, SE Sec.18, T.14 N, R.2W Field No. 4, NE, NE, Sec.19, T.14 N, R.2W Field No. 5, SW,SE Sec.18, T.14 N, R.2W Field No. 6, SW, NW, Sec.17, T.14 N, R.2W
Contact at Facility	Name: Pat Sauter Telephone #: (360) 748-4403
Responsible Official	Name: Pat Sauter Title: Manager Address: 436 NW State Street Telephone #: (360) 748-4403 FAX # (360) 748-1419

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

HISTORY

The initial permit for this facility and the Sturdevant Street Repack Facility was issued on October 28, 1986. When the permit was renewed in 1991, the Repack Facility was issued a separate permit. The second permit renewal in 1995 was the first permit that included requirements for groundwater monitoring under the current Ecology criteria. At this time 5 test wells were requested and drilled (MW-1A, MW-1B, MW-2A, MW-2B and MW-2C). Later on, three more wells were drilled to better establish the hydrological regime in the area (MW-2E, MW-2D, and MW-2E). Based on subsequent review, additional characterization is needed at the facility to define the hydrogeologic conditions. This permit requires that the existing monitoring network be upgraded with two additional monitoring wells, an observation well, and three surface water staff gages. Fields 6A, 6B and 6C have been combined as field 6 in this permit.

INDUSTRIAL PROCESSES

This plant takes unprocessed vegetables and processes them to a marketable form of frozen vegetables. Sweet corn, carrots, and green peas have been traditionally processed here. From the permit application the production was projected to be: 37 million pounds of carrots and 72 million pounds of sweet corn. All production is seasonal. The facility is shut down from approximately the first of November until the middle of July. A holding reservoir stores wastewater generated after the growing season. During the processing season, approximately 160 people work at this plant 7 days a week, 24 hours per day. Chemicals stored include janitorial chemicals. Water use has been minimized in an effort to reduce cost. Water use is intensive, reflecting the need to produce food to meet exacting local and export standards. This is a permit renewal.

TREATMENT PROCESSES

Wastewater from the plant is screened before being pumped to the disposal fields. National Frozen Foods own these sprayfields. The crew for operating the irrigation system consists of one supervisor and three workmen. This operation works the irrigation system seven days a week, 24 hours per day during the production system. The system is operated in accordance with the annual Irrigation and Crop Management Plan

DISTRIBUTION SYSTEM SPRAYFIELD

The system is operated in accordance with the annual Irrigation and Crop Management Plan. The sprayfields have the following area:

Field	Area, Acres
1	39.5
2	35.0
4	43.0
5	30.0
6	27.7
Total	175.2

Soils are alluvial and vary significantly from clays in field No. 1 to permeable soils near the river. There is no winter application. Access to the spray fields is controlled by locked gates in sturdy fences. Annual irrigation and crop management plans are submitted for review.

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The results of irrigation at this facility have been satisfactory, showing a nitrogen deficit for the area covered. It is the intention of this permit to provide additional sampling points and monitoring so that the intended results of the permit are achieved. The last annual Irrigation and Crop Management Report was submitted on May 10, 2004, for the year 2003. Water for the plant is taken from the Chehalis municipal system.

GROUND WATER

The application fields overlie a shallow, unconfined aquifer that consists of sandy silt, silty sand and fine sand alluvium of the Chehalis River. Based on well logs from nearby water supply wells, the fine sandy alluvium overlies and is hydraulically connected to saturated sand and gravel at depths of about 50 feet and 65 feet. A 200-foot thick clay later reportedly underlies the uppermost aquifer at a depth of 74 feet.

SURFACE WATER

The Chehalis River at this location is subject to severe restrictions on receiving wastewaters. Three surface wastewater discharge Permittees are forbidden to discharge to the river during the period of low flow in the spring and summer. The parameters that are critical to total maximum daily loads are ammonia and biochemical oxygen demand. The uppermost aquifer, beneath the application fields, is hydraulically connected to the Chehalis River and onsite monitoring wells have shown detections of ammonia-N and biochemical oxygen demand. The proposed permit requires that testing be done to measure the extent of the connection between surface water and ground water at this site. In accordance with regulations, the limits proposed for surface water for ammonia and BOD are defined as an increase over background.

PERMIT STATUS

The previous permit for this facility was issued on November 8, 1995.

An application for permit renewal was submitted to the Department on May 30, 2000, and accepted by the Department on May 1, 2001.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

A compliance inspection with sampling was conducted on December 8, 1995.

No limits were set in the existing permit.

WASTEWATER CHARACTERIZATION

The concentration of pollutants in the discharge was reported in the permit application and in discharge monitoring reports. The proposed wastewater discharge land application is characterized for the following parameters:

The main constituents of concern in the wastewater are nitrogen and organic compounds and total dissolved solids. The average concentrations (mg/L) for constituents of concern in the wastewater for 2000 through 2003 are listed as follows:

<u>Year</u>	<u>5-Day Biochemical Oxygen Demand</u>	<u>Total Kjeldahl Nitrogen</u>	<u>Ammonia-N</u>	<u>Total Dissolved Solids</u>	<u>Fixed Dissolved Solids</u>
2000	3825	92	4.8	Not Tested	Not Tested
2001	6058	190	4.9	3006	442

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2002	4487	74	2.0	3505	544
2003	6008	73	2.1	3985	851

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, that ground water criteria are not violated, and that effluent limitations are being achieved (WAC 173-216-110). The present monitoring points for groundwater are inadequate. Additional monitoring wells will be required.

WASTEWATER MONITORING

The monitoring schedule is detailed in the proposed permit under Condition S1. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

CROP MONITORING

The crop is a critical component in many land application systems and is relied upon for removing nutrients, reducing erosion, and maintaining or increasing infiltration rates. Crop monitoring allows a complete mass balance to be calculated to determine the amount of nutrients and salts, which are uptaken by the crop and removed each season.

SOIL MONITORING

Soils support crop growth and a biological community, which removes BOD, and other pollutants that are not removed through treatment prior to application or through crop uptake. Soil monitoring is required to assure that excess nutrients and salts are not residing in the soil column which would be leached to ground water. This testing allows for a more accurate application rate to be determined and minimizes the leaching potential to ground water.

GROUND WATER MONITORING

The monitoring of ground water at the site is required in accordance with the Ground Water Quality Standards, Chapter 173-200 WAC. The Department has determined that this discharge has a potential to pollute the ground water. Therefore, the Permittee is required to evaluate the impacts on ground water quality. Monitoring of the ground water at the site boundaries and within the site is an integral component of such an evaluation.

PROPOSED PERMIT LIMITATIONS

Federal and state regulations require that effluent limitations set forth in a permit must be either technology- or water-quality based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 256, Tuesday, December 22, 1992). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

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The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology and water quality-basis. The limits necessary to meet the rules and regulations of the state of Washington were determined and included in this permit. The Department does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation. Effluent limits are not always developed for pollutants that may be in the discharge but not reported as present in the application. In those circumstances the permit does not authorize discharge of the non-reported pollutants. Effluent discharge conditions may change from the conditions reported in the permit application. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department of Ecology. The Permittee may be in violation of the permit until the permit is modified to reflect additional discharge of pollutants.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permit shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL). In this permit, it is necessary to limit pollutant concentrations for those monitoring wells immediately adjacent to the Chehalis River to coincide with the limits set in the Upper Chehalis River Basin Evaluation of Total Maximum Daily Load, Summary Report, Ecology Publication No. 94-144, 1994. This is the source for the limits set on Ammonia and BOD₅.

GROUND WATER QUALITY-BASED EFFLUENT LIMITATION

In order to protect existing water quality and preserve the designated beneficial uses of Washington's ground waters including the protection of human health, WAC 173-200-100 states that waste discharge permits shall be conditioned in such a manner as to authorize only activities that will not cause violations of the Ground Water Quality Standards. Drinking water is the beneficial use generally not requiring the highest quality of ground water. Providing protection to the level of drinking water standards will protect a great variety of existing and future beneficial uses.

The existing groundwater monitoring network consists of eight monitoring wells: Two wells at Field #1 (MW-1A) and MW-1B) and six wells at Field 4/5 (MW-2A, MW-2B, MW-2C, MW-2D, MW-2E, and MW-2F). The well locations are show in Figure 1. Five of the wells are being sampled under the current permit: MW-1A, MW-1B, MW-2A, MW-2B, and MW-2C. Three new wells were drilled in July 2003. Well MW-2F was drilled to replace MW-2B because the well seal was suspect due to jacking of the well casing, MW-2E was judged to be a good location for an upgradient well and MW-2D was better placed to characterize groundwater quality.

Applicable ground water criteria as defined in Chapter 173-200 WAC and in RCW 90.48.520 for this discharge include the following:

Table 2: Ground Water Quality Criteria

Total Dissolved Solids	500 mg/L
Chloride	250 mg/L
Nitrate	10 mg/L

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S2 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 273-216-110).

FACILITY LOADING

The irrigation loadings for this facility were never subjected to scientific analysis. Given the data accumulated from the issuance of the extant permit until the present, a report setting forth discharge limitations will be required. WAC 173-216-110(5) requires that an engineering report be submitted to define these parameters. This permit requires a Hydrogeological Report be prepared which will serve as a substitute for an engineering report.

IRRIGATION AND CROP MANAGEMENT PLANS

The irrigation and crop management plan is required to support the engineering report(s) and operations and maintenance manual. This plan shall include a consideration of wastewater application at agronomic rates and should describe and evaluate various irrigation controls.

OPERATIONS AND MAINTENANCE

The proposed permit contains condition S.4. as authorized under Chapter 173-240-150 WAC and Chapter 173-216-110 WAC. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste. If the permittee continues to dispose of his solid waste to a farmer who ensiles it and applies the silage leachate to land as diluted irrigation water in accordance with the farmer's farm plan, no solid waste disposal plan will be required.

ADDITIONAL HYDROGEOLOGIC CHARACTERIZATION

Although considerable progress has been made in characterizing the site hydrogeology and establishing a monitoring network at NFF, the Department has determined, based on a review of the existing information, that additional characterization is needed to define the hydrogeologic conditions at the facility. The additional characterization consists of two parts:

1. Defining the groundwater flow pattern and its seasonal variation in Field 4/5.
2. Establishing a groundwater monitoring network for Field 2.

The groundwater flow pattern for the uppermost aquifer beneath Field 4/5 is likely complex and transient due to the seasonal effects of wastewater loading, precipitation, and changing stages of Chehalis River. The Department believes the characterization of this flow pattern will benefit the interpretation of past and future water quality results.

In the past, the Department decided that groundwater monitoring would not be required at Field 2. This agreement was based, at least in part, on the understanding that Field 2 would be receiving

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less wastewater than Field 4/5. Based on the annual reports for 2000 through 2004, Field 2 has been receiving wastewater at a rate equal to or greater than Field 4/5. The Department is requiring that groundwater monitoring be established at Field 2.

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to ground water permits issued by the Department.

Condition G1 requires responsible officials, or their designated representatives, to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Conditions G7 and G8 relate to permit renewal and transfer. Condition G9 requires the payment of permit fees. Condition G10 describes the penalties for violating permit conditions.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, and to protect human health and the beneficial uses of waters of the State of Washington. The Department proposes that the permit be issued for a period of five years corresponding to the permit renewal cycle.

REFERENCES FOR TEXT AND APPENDICES

Faulkner, S.P., Patrick Jr., W.H., Gambrell, R.P., May-June, 1989. Field Techniques for Measuring Wetland Soil Parameters, Soil Science Society of America Journal, Vol. 53, No.3.

Washington State Department of Ecology, 1993. Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems, Ecology Publication # 93-36. 20 pp.

Washington State Department of Ecology, 1996. Implementation Guidance for the Ground Water Quality Standards, Ecology Publication # 96-02.

Washington State University, November, 1981. Laboratory Procedures - Soil Testing Laboratory. 38 pp.

APPENDICES

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on March 20, 2004 and March 27, 2004 in the *Chronicle* to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) on August 23, 2005 in the *Chronicle* to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 4:30 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Industrial Unit Permit Coordinator
Department of Ecology
Southwest Regional Office
PO Box 47775
Olympia, WA 98504-7775

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-216-100). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (360) 407-6293, or by writing to the address listed above.

This permit was written by Gary Anderson.

APPENDIX B--GLOSSARY

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation--The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of the collection or treatment facility.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring --Uninterrupted, unless otherwise noted in the permit.

Distribution Uniformity--The uniformity of infiltration (or application in the case of sprinkle or trickle irrigation) throughout the field expressed as a percent relating to the average depth infiltrated in the lowest one-quarter of the area to the average depth of water infiltrated.

Engineering Report--A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

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Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

MSL--Mean Sea Level.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Soil Scientist--An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy, crops or soils, and have 5,3,or 1 years, respectively, of professional experience working in the area of agronomy, crops, or soils.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Coliform Bacteria--A microbiological test which detects and enumerates the total coliform group of bacteria in water samples.

Total Dissolved Solids--That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent pollution of the receiving water.

APPENDIX C—RESPONSE TO COMMENTS

On September 12, 2005, comments were received by e-mail from Steve Wilson, Brown and Caldwell.

Permit

Comment #1

Page 4, S2.A – We recommend that the requirement for submitting monthly DMRs be eliminated because this is a seasonal facility, and monthly data collected does not have direct compliance implications. Data on process water characteristics, soil test results, and crop tissue test results, for example, are best submitted in compiled format in the annual report.

Response #1

Individual waste discharge permits require effluent sampling and reporting no less than monthly. No change is made.

Comment #2

S1.B. Ground water monitoring, “Monitoring well locations” table-The need for monitoring wells designated MW-3A, MW3B, and OW-1 should be the subject of further discussion after results from sampling MW-2D, MW2E, and MW2F are evaluated. With other monitoring and limits imposed by this draft permit, it isn’t clear that additional ground water monitoring should be required.

Response #2

Ecology disagrees. Monitoring wells MW 3A and MW 3B are needed to monitor the groundwater quality at Field 2. Originally Ecology understood that Field 2 would not receive substantial quantities of wastewater. However, based on the 2003 and 2004 Crop and Irrigation Plans (Annual Reports), Field 2 has received a large portion of the wastewater. It is essential that groundwater monitoring be established at Field 2. To date the groundwater flow pattern beneath Field 4/5 has not been adequately defined. The hydrogeologic characterization (groundwater flow pattern and rate of flow) of the site must be understood before interpreting groundwater quality results. Well OW-1 when combined with the water level elevations of the other monitoring wells at the site and the Chehalis River water elevations should define the groundwater pattern beneath Field 4/5.

Comment #3

S1.B. Ground water monitoring, “Ground water monitoring parameters” for wells 2C, 2D, 2E, 2F, (Include well 2A?):

- Ferrous iron is a nonstandard test and DOE should not show this in the permit.
- Dissolved oxygen (DO) is a surface water parameter and should not be required for groundwater
- Total coliform relates to sanitary waste disposal and is inappropriate for this permit.
- Total iron and manganese are problematic due to sediment contamination in some monitoring wells. We recommend substituting dissolved Fe and Mn.
- Flooding is common in December and a strict requirement to sample in December cannot be met reliably.

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Response #3

Ferrous iron is a good indicator of reduction-oxidation conditions in the aquifer. Commercial field test kits using standard methods of analysis are available. Ferrous iron will be retained in the permit. Dissolved oxygen is a standard groundwater purge parameter and will be retained in the permit. A groundwater quality criterion exists for Total Coliform bacteria and will be retained in the permit. The groundwater quality criteria for iron and manganese are based on totals analyses. Ecology recommends that total iron and manganese samples be collected using low-flow methods. Ecology acknowledges that sampling in the winter can be challenging. The permittee should notify Ecology when sampling cannot be conducted due to high water conditions.

Comment #4

S1.B. Ground water monitoring, "Ground water monitoring parameters" for wells 1A and 1B- Please delete requirements to test ferrous iron and DO.

Response #4

Ferrous iron is a good indicator of reduction-oxidation conditions in the aquifer. Dissolved oxygen is a standard groundwater purge parameter. Requirements for ferrous iron and dissolved oxygen will be retained in the permit.

Comment #5

S1.E. Surface water monitoring- We strongly disagree with the requirement for surface water sampling as there is not surface water discharge. Water quality in Chehalis should be evaluated by other means. We also recommend that DOE focus on DO rather than BOD when evaluating surface water quality. Finally, please note that it will often be impossible to sample in December due to flooding.

Response #5

For surface water quality monitoring to be useful and representative, an intensive sampling effort will be needed along the potentially affected reaches of the Chehalis River and Salzar Creek. The current permit will focus on completing the hydrogeologic characterization at the facility and upgrading the groundwater monitoring network. The requirements for surface water quality sampling will be removed from this permit. In the future, however, in the event that contaminants are detected in compliance monitoring wells, surface water quality surveys may be required to determine whether the Chehalis River water quality is affected.

Comment #6

S2.A. Reporting-We recommend that groundwater monitoring reports be submitted quarterly, consistent with the required sampling schedule. We recommend that all other monitoring results be submitted with the annual report.

Response #6

Ecology agrees that groundwater monitoring results should be submitted quarterly.

Comment #7

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S6. Additional hydrogeological characterization-National Frozen Foods previously agreed to install new wells at designated locations (2D, 2E, and 2F) in field 4/5 to address questions about ground water quality. These wells have not been sampled, pending issuance of this permit. It is recommended that these wells be sampled and evaluated for a 2-year period before any conclusions are drawn about the need for additional wells. Also, the value of staff gauges is questioned as there is no gradient along this reach of the river. Staff gauges would be problematic due to frequent flooding. Historically, we have used the USGS gauge at the Chehalis WWTP (USGS# 12025100).

Response #7

It is essential that the groundwater flow pattern and the rate of groundwater movement be understood prior to interpreting groundwater quality results at the facility. The activities described in S6 are intended to complete the hydrogeologic characterization at the site. A delay in initiating these activities will only delay our ability to interpret the monitoring results. The use of staff gages is one approach to defining the elevation of the river surface along the site boundaries. If the facility knows of alternative methods for defining the water surface elevation then Ecology will consider these methods for inclusion in the permit if they provide equivalent information.

Comment #8

G1.B and D, Signatory requirements- The annual irrigation and crop management plan (as an example) is required to be prepared by a soil scientist. This is in conflict with Section G1.B which requires reports to be signed by a principal executive officer of the company. If the soil scientist is designated as an “authorized representative,” there is conflict with Section G1.D when collection of data is not under direct supervision. We recommend that Section G1.D be eliminated. Penalties for falsifying information are already addressed in G6 and G10.

Response #8

Where a permit report is prepared by a licensed professional, the soil scientist, hydrogeologist, or engineer should stamp/seal and sign the document according to their respective requirement. The transmittal of such a report to Ecology should be with a letter signed by a duly authorized representative of the permit holder. No change is made to G1.B and G10.

Fact Sheet

Comment #9

Page 2, History-“Based on subsequent review, additional characterization is needed.....” We do not have any knowledge of subsequent review, and recommend that the additional wells and/or staff gauges are not appropriate until a database from wells 2D, 2E, and 2f has been developed and evaluated.

Response #9

The language in the section is adequate. The need for additional characterization and monitoring wells was described in Ecology’s response to Comment 2 and Comment 7 for the permit.

Comment #10

Page 3, first paragraph-“results of irrigation at this facility have been satisfactory....” Why then is additional monitoring being required?

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Response #10

The need for additional characterization and monitoring wells was described in Ecology's response to Comment 2 and Comment 7 for the permit.

Comment #11

Page 3, surface water-"...BOD and ammonia have been detected in riverside wells...", perhaps we do not understand what is meant by "riverside." The downgradient well, 2C, has not been affected by BOD or ammonia.

Response #11

The reference to riverside wells has already been changed in response to entity comments.

Comment #12

Page 5, Ground water quality-based effluent limitation, second sentence-"Drinking water is the beneficial use generally requiring..." (as opposed to **not** requiring)

Response #12

Ecology agrees the "not" should be deleted from the following sentence: "Drinking water is the beneficial use generally **not** requiring the highest quality of ground water."

Comment #13

Page 6, Facility loading-We do not understand the statement that "irrigation loadings were never subjected to scientific analysis". Please delete this sentence. Irrigation loadings have been reviewed annually since the original engineering report many years ago.

Response #13

The language in the Fact Sheet is referring to the condition that no definitive agronomic loading rate has been determined for this facility.

Comment #14

Page 6, Establishing a ground water monitoring network for field 2-"...in the past, DOE decided that ground water monitoring would not be required in field 2." What basis does the DOE have for changing its position on this? There seems to be no accountability for the decision.

Response #14

The basis for requiring groundwater monitoring at Field 2 is discussed in permit comment #2 and comment #7 responses. The language in the section is adequate.

Comment #15

FACT SHEET FOR STATE WASTE DISCHARGE PERMIT NO. ST 6122
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Page 7, General Conditions, first sentence-this is an industrial waste land treatment permit rather than “discharge to groundwater”.

Response #15

Ecology agrees that the word “water” should be deleted from the phrase “industrial waste discharge to ground water permits”

Letter received September 20, 2005 from Dorothy Bidlake of Chehalis, Washington.

I use this form to register a complaint against National Frozen Food Corp. This past summer I’ve had to put up with objectionable odors from this company for far too many days. One of my visitors was moved to ask if that smell was raw sewage. Said smell ranges from the stench of sewer to manure. As I understand the odor stretches over an area of more than three miles in length. Please consider this situation as your decide the conditions in NFFC’s permit.

Response #16

Permit condition S4/C requires that wastewater not be applied to the irrigation land, in quantities that produce objective odors.